Self-regulated learning in formal education: perceptions, challenges and opportunities

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Abstract: Self-Regulated Learning (SRL) is a term that can be used to describe an individual's ability to develop a skill set allowing him or her to learn in a number of different ways. SRL can also relate to new pedagogical theories that encourage teachers in formal education to motivate and support their students into achieving a high level of self-regulation. This paper reports on the findings of a number of surveys conducted with a wide variety of teachers in different countries, regarding their perceptions of SRL. The results and analysis of these surveys help inform not only the perceptions of SRL amongst teachers but also examine the challenges and opportunities that arise from taking this approach.

Keywords: self-regulated learning; independent learning; formal education.

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1 Introduction

Self-Regulated Learning (SRL) is often associated with the goal setting process for learning (Dabbagh and Kitsantas, 2004) which in turn enables "the goal (to) act as a criterion against which to assess, monitor and guide cognition" (Pintrich, 2000). In other words, the goal setting process of SRL encourages the learner to define the outcome of his or her learning process as well as identifying strategies with which to reach those goals. It is also said that by setting themselves learning goals students are motivated to attain higher effort and persistence over the course of time in addition to influencing their own learning through affective reactions such as improved or higher self-satisfaction (Zimmerman, 2008).

Zimmerman (1989) suggests that SRL is an active and constructive process where learners set themselves goals that enable them to monitor, regulate and control their cognition, motivation and ensuing behaviour within the contextual features of their environment. Thus, SRL can be perceived to be, in rather more simplistic terms, learning how to learn. Since the 1980s, a number of researchers, including Zimmerman, have proposed a variety of theoretical frameworks and models that outline SRL in terms of learning targets, guidance and potential planning mechanisms (ibid; see also Zeidner et al., 2000; Mace et al., 2001). These, in turn, have led to the further study of such variables in computer-based learning environments too.

In the field of SRL research, the role of learners' strategic use of cognitive and metacognitive strategies to regulate their learning is often pointed out (see Boekarts, 1999; Mandl and Friedrich, 2006; Winne and Hadwin, 2008). It appears that many learners experience difficulties in using effective concrete metacognitive strategies and, as a result, perform less successfully than would be expected (Bannert, 2006). Consequently, much work has focused on the assessment of those students' SRL strategies and thus attempts to support and adapt their learning behaviour. More often than not, this work is usually focused on highly controlled learning environments such as intelligent (tutoring) systems (Bannert, 2006; Azevedo et al, 2010). Understanding, scaffolding and/or facilitating students' SRL skills, however, is especially important in (responsive) open learning environments because goals are often less clear and obvious; therefore, students might not necessarily be able to predict the outcome of the learning activity or the optimal learning path.

It is argued here, however, that Technology-Enhanced Learning (TEL) environments provide opportunities to enhance the necessary SRL skills, especially metacognitive abilities, but that learners need additional help and guidance (Bannert, 2006) during the learning process. In this regard, the concept of freedom and guidance comes into play.

This is important, because highly motivated learners attain an improved learning experience if they feel that they have more control over their learning (Issing, 2002). Conversely, less motivated learners appear to attain an improved learning performance if they receive more guidance (ibid). Issing also noted that this phenomenon is also applicable to hypermedia learning environments.

Within the Responsive Open Learning Environments (ROLE) project (http://www.role-project.eu), SRL has been investigated in relation to TEL environments primarily in formal education. In particular, ROLE has developed a Psycho-Pedagogical Integration Model (PPIM) (Fruhmann et al., 2010) by adopting a cyclic SRL model (Zimmerman, 2002). The ROLE project has also developed bespoke widgets that guide learners through the phases of the PPIM, as well as learning materials that raise awareness about SRL and explain the use of the ROLE widgets (Mikroyannidis et al., 2013).

This paper presents an investigation of the SRL perceptions of teachers in formal education, conducted in the context of the ROLE project. The role of the teacher is essential in motivating SRL in the classroom, with or without the use of TEL. Consequently, the teachers' SRL perceptions and practices are of great value for understanding the challenges of supporting SRL in formal education, as well as for identifying potential opportunities for deploying TEL solutions in the classroom.

2 Methodology

The overall intention of this work was to try and understand the teacher's perception of SRL. In order to achieve this aim, a Teachers' Perception of SRL (TPSRL) survey was designed and deployed to a number of international teacher communities. Whilst there have been several questionnaires deployed previously by others, directly or indirectly, their focuses are different from that of TPSRL. For instance, Lombaerts et al. (2009) developed a 15-item instrument called 'Self-Regulated Learning Teacher Belief Scale' to assess teachers' opinions on the instruction of SRL. Similarly, Dignath-van Ewijk and van der Werf (2012) addressed teachers' knowledge and beliefs on how to foster students' SRL. Kramarski and Michalsky (2009) also investigated teachers' metaphorical understanding of teacher- and student-centred instructional strategies.

In contrast, the TPSRL used here aimed to explore which factors potentially influence teachers' assessment of their students' SRL competence, how they see the relationship between students' SRL competence and performance, and which type of students in terms of level of SRL competence they prefer to teach. These questions were considered to be important to examine, especially as SRL could influence the balance between teacher control and student autonomy (e.g. Eshel and Kohavi, 2003). As an inherent limitation of all self-reported questionnaires/scales can be the validity of respondents' subjective estimations and behavioural tendencies, the TPSRL was designed with this in mind. Essentially it was a triangulation based on multi-method and method-source empirical data may mitigate the issue. The rationale for each question is outlined Table 1. It is important to clarify that the justifications for the individual questions of the survey were not part of the survey itself. In other words, the respondents were presented only with the questions in the left-hand column of Table 1. Please also note that some of the questions are shortened forms of the original ones.

Table 1 Rationale of the TPSRL questions

Question	*Rationale/comment*
Q1 What is the name of your institution?	These background questions aimed to contextualise the teacher's responses. It is intriguing to explore whether the three variables, namely the subject area taught, the type of classes and the number of students with whom the teacher interacts, have any effect on perceptions of the role of SRL in learning.
Q2 Which subject area do you mainly teach?	
Q3 What kind of classes do you mostly teach? *Answer options: Face-to-face, distance-based or blended.*	
Q4 How many students do you normally teach this subject area each academic year?	
Q5 Thinking about a typical student group, what levels of SRL can you estimate that they have? *Answer options:* *i High level: 10%, 20%, …, 100% (in steps of 10%)* *ii Medium level: 10%, 20%, …, 100% (in steps of 10%)* *iii Low level: 10%, 20%, …, 100% (in steps of 10%)*	This aims to identify a general picture about the distribution of students' SRL competence. The limitation is that it relies on the teacher's personal estimation. It is intriguing to find out how accurately a teacher can estimate the SRL competence of his/her students. In a subsequent study, we would like to estimate this accuracy by correlating a teacher's ratings with those measured by a standardised questionnaire on the SRL competence.
Q6 How challenging is it for you to teach students with different SRL levels? Consider each group separately. *Answer options: 5-point Likert scale using 'not challenging at all' to 'very challenging'.*	This is set to ascertain to what extent the teacher perceives the level of difficulty of his/her teaching task is related to the level of student SRL competence.
Q7 Could you give an example from your teaching experience of these groups (i.e. students with low, medium and high SRL competence)?	The quantitative response in Q6 can be justified by the qualitative response here enabling further insights into the reasons underlying the teacher's rating
Q8 Which type of students do you prefer to teach? Please explain your preference. *Answer options: Students with a high or low SRL or independent learning level.*	The response here is presumably correlated with that of Q6. If the teacher finds it challenging to teach students of low SRL, they may tend to prefer teaching those with high SRL.
Q9 Please express your level of agreement with the following statements. Students with a high SRL or independent learning can: • Perform better in general than those with a low SRL • Reach their learning goals more efficiently than those with a low SRL • Reach their learning goals more effectively than those with a low SRL • Reach their learning goals more satisfactorily than those with a low SRL *Answer options: 5-point Likert scale from 'strongly disagree' to 'strongly agree'.*	The statements examine how the teacher compares the level of performance of students with high and low SRL competence, and how the teacher assesses the ways the students with different level of SRL competence achieve their learning goals. Whereas effectiveness (e.g. in terms of mistakes/errors) and efficiency (e.g. in terms of task completion time) are the pragmatic aspect of the goal attainment, feeling satisfied (e.g. pride, confidence) is the hedonic aspect. Fulfilling both aspects of the learning goal is considered significant for students, irrespective of their SRL competence level.

Table 1 Rationale of the TPSRL questions (continued)

Question	*Rationale/comment*
Q10 Do you encourage SRL or independent learning in the courses that you teach? Why? How?	This is to assess the teacher's behaviour in promoting SRL in actual practice, the reasons for implementing or not, as well as the methods used.
Q11 Do you think you should encourage more SRL or independent learning in the courses that you teach? Why?	This is set to evaluate the consistency between behaviour assessed by Q10 and attitude or behavioural intention here.

In order to communicate the context of the survey to participants, we provided them with a short introduction to SRL, which included examples of SRL assessment, as well as a short explanatory video (http://youtu.be/jTa1vOH6JjA) and a link to a free online course (http://tinyurl.com/role-srl-course), both developed by the ROLE project. The introductory material and the survey were translated and deployed in six countries inside and outside Europe, namely the UK, Greece, Germany, Austria, China and India. The next sections examine each of the completed surveys, their outcomes and analysis therein.

3 The surveyed communities of educators

Table 2 provides an overview of the respondents for each country, based on their responses to the background questions of the survey (Q1–Q4). In particular, the majority of the UK respondents were teachers either associated with the Open University or engaged with teaching in other UK Higher Education Institutes (HEIs). The second group of participants were teachers in primary, secondary and HE in Greece. These teachers were recruited while undertaking vocational training in the School of Pedagogical and Technological Education (ASPETE, http://www.aspete.gr). This HEI provides concurrent technological and pedagogical education and training at the tertiary level.

In Germany, the TPSRL survey was circulated among teaching staff of the Institute of Information Management in Mechanical Engineering (IMA) in RWTH Aachen. The survey was conducted in two rounds: in April 2012, at the beginning of the semester, we asked the teaching staff to answer the TPSRL questionnaire. Ten teachers filled out the questionnaire. During the semester, a selection of ROLE widgets was deployed within a course that offered an introduction to computer science in mechanical engineering. The results of this evaluation have been published by Vieritz et al. (2013). In November 2012, after the semester had finished, we used the TPSRL questionnaire to interview the three teaching assistants and the lecturer who used the ROLE widgets in their course.

Participants in Austria were principally a variety of teachers and higher educators who were drawn from elementary, middle and high schools, as well as those from Institutes of Further Education. The survey was conducted in conjunction with a workshop organised for the EU-funded Next Generation Teaching, Education and Learning for Life (NEXT-TELL, http://www.next-tell.eu) project during winter 2011.

The TPSRL survey was deployed in the School of Continuing Education (SOCE), within the Shanghai Jiao Tong University (SJTU), China. SOCE primarily offers a

blended learning approach in its teaching delivery. Students are, in general, mostly adult learners who have a job, attend classes in the evening or weekend, either in person in the classroom or by watching the classes live over the web.

Finally, the TPSRL survey was deployed across the state of Punjab, North-western India. In this case, the respondents were primary, high and senior secondary school teachers from nine different institutes.

Table 2 Overview of the surveyed communities of teachers

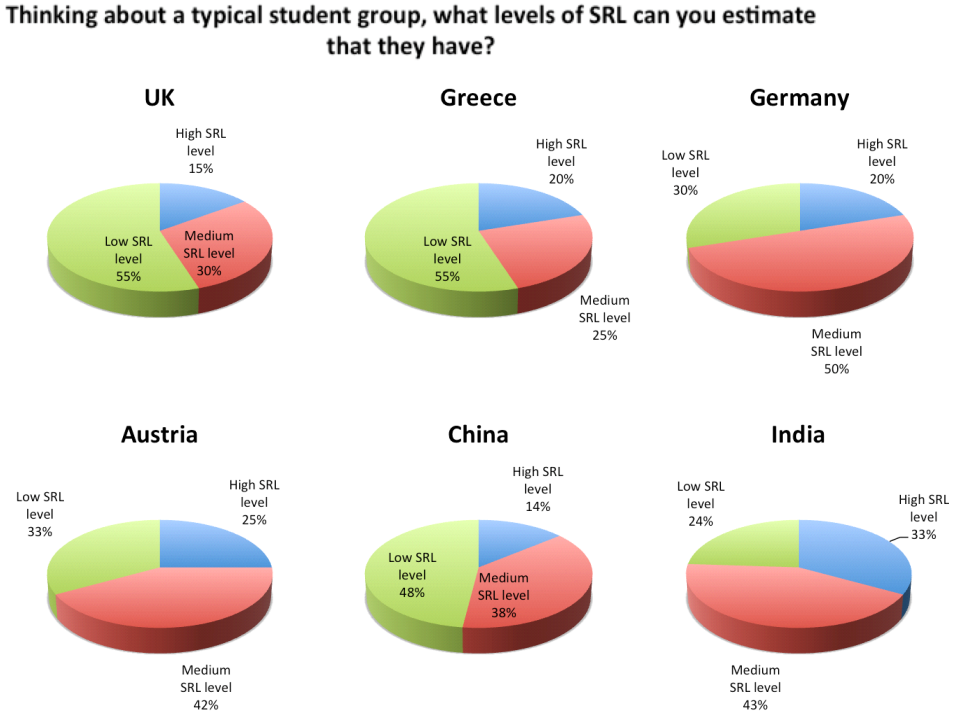
Country	*No. of respondents*	*Subjects taught*	*Type of classes taught*	*No. of students taught per year*
UK	23	Life sciences, marketing, educational technology, chemistry, geography, mathematics, computing.	65% face-to-face; 35% distance-based	100–300
Greece	56	Wide variety of topics, ranging from theoretical subjects, such as mathematics, literature and history, to applied ones such as mechanical engineering and computer science.	93% face-to-face; 7% blended	Up to 100
Germany	13	Computer science.	100% face-to-face	Up to 300
Austria	12	Mathematics, computer science, literature.	76% face-to-face; 8% distance-based; 16% blended	20–200
China	8	Computer science, language, management, finance, statistics.	12% face-to-face; 12% distance-based; 76% blended	50–3000
India	421	Computer science, language, mathematics, accounting, drawing, physical education, commerce.	100% face-to-face	20–750

4 Analysis of responses

1 *Thinking about a typical student group, what levels of SRL can you estimate that they have?*

Q5 of the TPSRL survey asked the participants to estimate the SRL levels of a typical student group that they teach. As shown in Figure 1, participants from all countries estimated the percentage of their students with a high SRL level to be quite low (14–33%). In the UK and Greece, respondents perceived the majority of their students (55%) to have a low level of SRL, while in Germany, Austria and India the estimated percentages of students with medium SRL level were much higher (50%, 42% and 43%, respectively). In China, the estimated percentages of students with low and medium SRL levels were more balanced (48% and 38%, respectively).

Figure 1 Responses to Q5 of the TPSRL survey (see online version for colours)



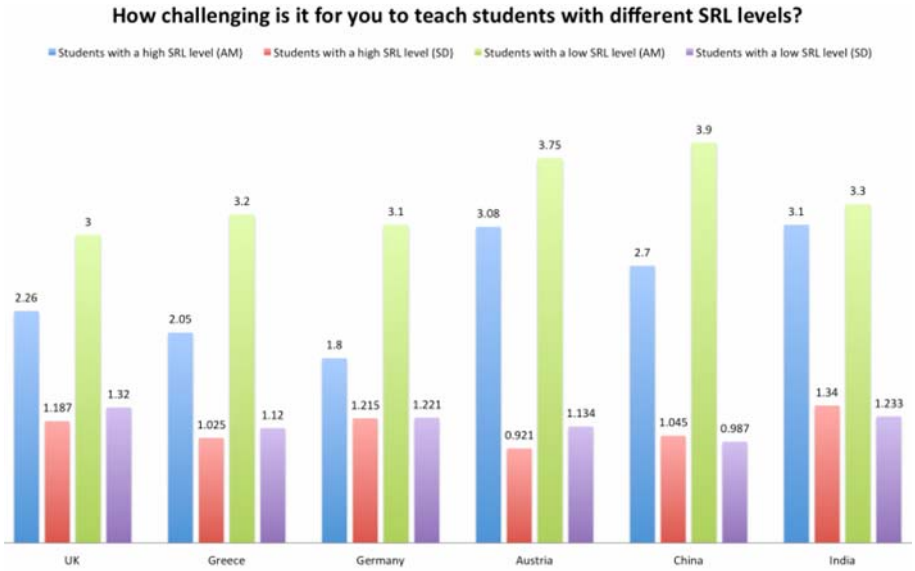
2 *How challenging is it for you to teach students with different SRL levels? Could you give an example from your teaching experience of these groups?*

Q6 invited participants to indicate how challenging it is for them to teach students with high and low levels of SRL. Responses were recorded on a scale from 1 (not challenging at all) to 5 (very challenging). Figure 2 depicts the Arithmetic Mean (AM) and Standard Deviation (SD) of the recorded responses. The results show that in almost every surveyed country, teachers find more challenging teaching students with a low SRL level than students with a high SRL level. The only exception was India, where responses were balanced between students with high SRL level (AM = 3.1) and low SRL level (AM = 3.3).

Participants were also asked to give an example from their teaching experience of these groups, i.e. students with low, medium and high SRL competences (Q7). Responses were illustrated by statements like the following, originating from a UK participant: "*The first group are more 'mature' and more interested in learning than the second group which is more childish and less prepared to assume a responsibility and put in some effort to their education.*"

On the other hand, two respondents from Germany indicated that teaching students with high SRL level can be challenging: *"Students with a high SRL level ask questions that go beyond the scope of the course."*

Figure 2 Responses to Q6 of the TPSRL survey (see online version for colours)



It appears, however, that if the students are forced to do so, they are able to learn in a self-regulated way: "*Most students refrain from taking the initiative and learning autonomously. However, if they are forced to do so, because tutors refuse to help too much, they are able to learn in a self-regulated way. That is, it might be difficult to distinguish between SRL-competence and SRL-willingness*."

During the RWTH course in which ROLE widgets were used, the students seemed to become more self-regulated, which might, however, rather be an effect of knowledge acquisition than of an increased SRL level: *"The course has supported self-regulation. While in the beginning a lot of trivial questions were asked, the students were able to find the answers to such simple questions themselves soon."*

3 *Which type of students do you prefer to teach? Please explain your preference.*

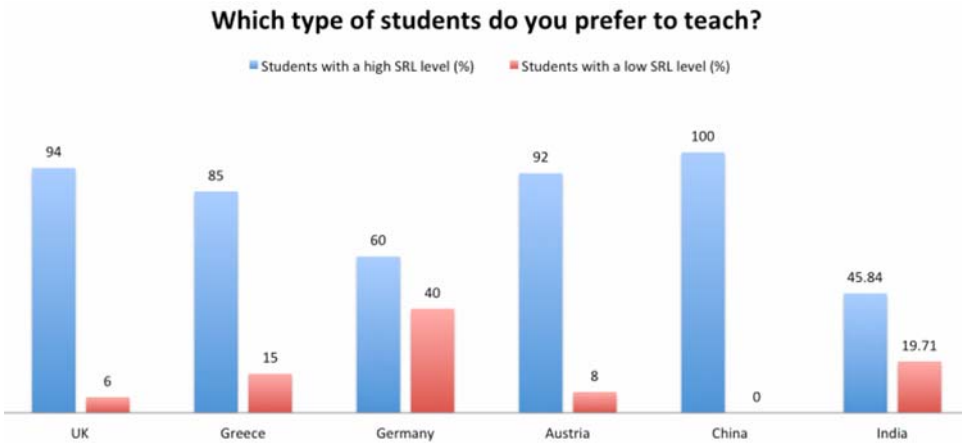
Unsurprisingly, the majority of respondents from all countries declared that they prefer to teach students with a high SRL level (see Figure 3). One UK respondent further justified this declaration by saying that "*It is more intellectually stimulating and less routine*" to teach students with a high level of SRL. Another stated that such students "*are more involved in learning, they ask more serious questions and thus it is also a challenge for me*".

All respondents in Austria and China stated that they prefer to teach high-level SRL students, with the exception of one teacher in Austria. Their premise being that these students know how to learn, know what to learn, are more active and motivated, and thus understand content more quickly. Again this is illustrated by some of the qualitative responses, such as the following:

- *"They are more motivated and interactive, and it is easier to have an understanding of the students' progress and needs regarding the curriculum."*
- *"These students can quickly understand what I talk about in class."*

However, one teacher from Greece expressed some concerns regarding the existing education system: *"We are not trained* (to teach students with high SRL) *perhaps because our education-examinations system does not favour it."* Another Greek teacher differentiated their opinion from the rest: *"*(I prefer to teach) *students with low level of SRL because there exists the raw material to develop the dynamic of a student regarding the regulation of their learning ability, while it is difficult sometimes to regulate a student with high SRL and coordinate them with the learning goal."*

Figure 3 Responses to Q8 of the TPSRL survey (see online version for colours)



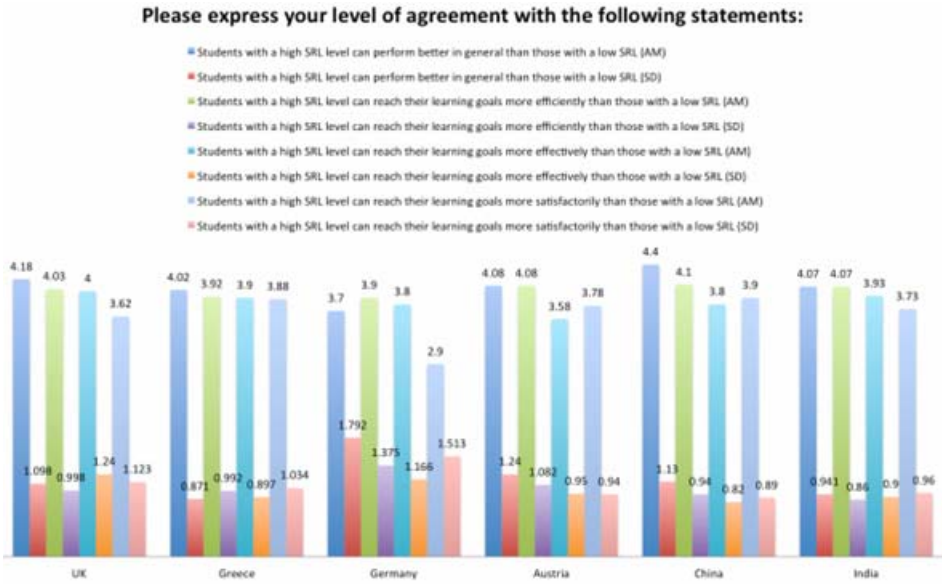
German participants gave more balanced responses between the two options of this question. Some of them remarked that students with a high SRL level appeared to understand faster, learn more, ask deeper questions, were better motivated and could work for themselves. They did, however, suggest that when a group of students moves forward very fast, they might need much more help later, with more complex problems. A potential dilemma arose because the high-level SRL students may then request/expect attention at a time when the other students actually need help more urgently.

4 *Please express your level of agreement with the following statements: Students with a high SRL or independent learning can perform better and reach their learning goals more efficiently/effectively/satisfactorily than those with a low SRL.*

In line with their previous responses, the majority of participants from all countries registered an agreement with the statements that students with high SRL can perform better and reach their learning goals more efficiently (i.e. in a shorter period of time), more effectively (i.e. with fewer problems/mistakes) and more satisfactorily (i.e. with less frustration/discomfort, higher pleasure) than those with a low SRL. Responses were recorded on a scale from 1 (strongly disagree) to 5 (strongly agree). Figure 4 illustrates the Arithmetic Mean (AM) and Standard Deviation (SD) of the recorded responses. Some of the explanations participants provided for their agreement with these statements were the following:

> *"I generally observe that students with high SRL level have statistically a higher percentage of success in exams, approaching 100%."*
>
> *"Based on my experience, SRL is rather related with studiousness and holistic way of thinking, as well as with the level of experience in learning and in life it is more usual to older and more conscientious students."*
>
> *"For example, in literature the students with high SRL can understand more quickly the main concepts, the storytelling techniques, and the symbolisms."*

Figure 4 Responses to Q9 of the TPSRL survey (see online version for colours)

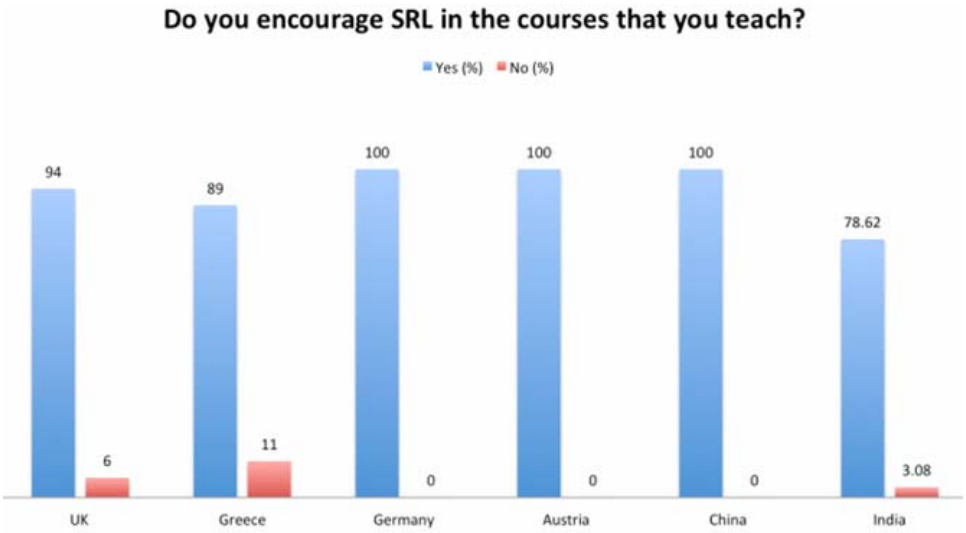


5 *Do you encourage SRL or independent learning in courses that you teach? Why? How?*

The vast majority of teachers from all countries indicated that they encourage SRL in their courses (see Figure 5). In particular, the UK respondents said that they simply signpost learning materials that they think are relevant, plus they direct students to appropriate institutional services that offer help in developing SRL skills. The following comments summarise their overall thoughts:

> *"We have plenty of material on our website that students can use to enhance their SRL. Problem is that they don't always use it – sometimes because they are so out of their depth that they have no time to do anything else but study the course material."*
>
> "(I) *direct them to our academic skills centre which runs personal sessions and workshops on study skills.*"
>
> *"I usually give a question or context for projects and then organise with them an agenda and goals … from this point they are free to find the best direction and we work together all the time revising the project goals and agenda."*

Figure 5 Responses to Q10 of the TPSRL survey (see online version for colours)



Respondents in Greece use empirical methods or materials they find on the web and in scientific repositories to encourage SRL. None of them, however, reported any bespoke learning materials or services being provided by their institutions for this purpose. Some of their responses were:

> *"SRL can follow one throughout their lifetime and contribute to the understanding of new concepts. After all, lifelong learning is connected to most aspects of our life nowadays."*
>
> *"It (SRL) helps my job and reinforces the self-esteem of my students."*
>
> *"I believe learning should be a matter of the student and not teacher-centric as today's education system dictates."*

In Germany, there was 100% agreement with this question, thus suggesting that the teachers thought that their students should reach their own learning goals themselves. This is, of course, not only a typical didactic attitude but also reflects the approach to learning taken in most programming courses, i.e. that the students are encouraged to do exercises on their own in order to gain experience. It was also suggested by the teachers that self-dependency is an important competency for the students' future professional career. Thus, the teachers perceived that SRL made learning flexible. Additionally, it enables different learning paces possible too.

Some teachers from Austria stated that they administer experiments or project work where students solve problems on their own. One teacher also mentioned that the there was an extraordinary student who when given more difficult tasks learned with an additional course book in order to increase her capabilities. Participants, however, pointed to the fact that they are limited to the available resources and sometimes struggle with a large number of classes with heterogeneous SRL level of the students.

In China, three teachers gave explanations and stated that SRL stimulates the students' active thinking, improves interaction and helps students to learn more quickly. Once again, this was underlined in the following quotes: *"In my courses on data*

structures, students often have to collaboratively solve experiments. There, I specify the goal and then the students find the solution. This process can stimulate students' active thinking, access to other resources, and they can take the initiative to seek various ways of problem-solving team collaboration."

Further examples of how to direct students, in order that they improve their SRL, were also shared. One teacher said that he/she uses collaborative activities, especially those using experiments, where students have to find solutions on their own. Most teachers recommended selected websites too. Additional information was also offered:

> *"In my course, I use collaboration to stimulate students SRL. When doing experiments, the student groups do joint teamwork, while I encourage them to seek a solution to the problem through a variety of ways."*
>
> *"I recommend the Human Resources Development Portal, as well as some foreign original books."*
>
> *"I raised a question at the end of each course, and told the students where they can find the answer, but let the students figure our the answer by themselves."*

Finally, it was found in India that 78.62% of the teachers responded positively, with only 3.08% saying 'No' and 18.76% abstaining. They also shared some of their methods for encouraging SRL among their students:

- *"Directing students towards resource centres, library, reference books and newspaper."*
- *"Internet is the best example to learn independently."*
- *"Frequent discussion with teachers."*
- *"Parents are best source of help as they have experience in different spheres of life."*

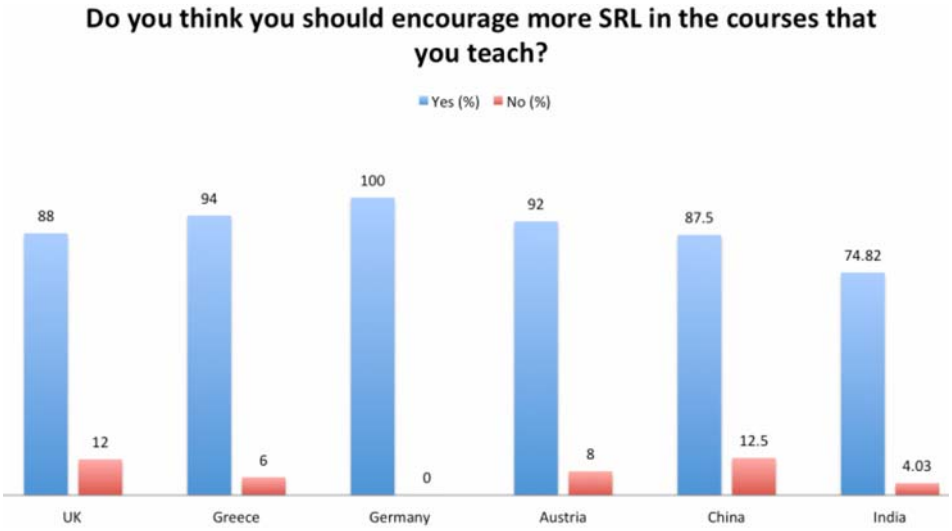
6 *Do you think you should encourage more SRL or independent learning in the courses that you teach? Why?*

Again, the vast majority of participants from all countries indicated that they agree with this statement (see Figure 6). In Germany, however, some teachers implied that students might stop working when they hear that they are free to regulate their own learning: *"A lot of students stop working as soon as they hear the words 'voluntary' and 'optional'." "The actual level is good enough. In order to convey the 'right' knowledge, one must not give too much freedom."*

In Austria, all but one respondent agreed that they should encourage SRL more. They mentioned a number of potential strategies, for example, increasing the possibilities and freedom in the individual learning tasks, by administering more project work as well as allowing students to make mistakes, which they can learn from and so on.

In China, all teachers but one agreed with the premise of this question. The teacher that disagreed feared it would take up too much time, which is then not available for teaching the subject of the course. The other answers, in fact, stated similar reasons to those described before, namely that there was improved interaction and increased interest and that students learned more effectively when SRL was encouraged. They also felt that the introduction of SRL improved the quality of their teaching too.

Figure 6 Responses to Q11 of the TPSRL survey (see online version for colours)



In India, 74.82% of the respondents agreed, 4.03% disagreed and 21.37% did not respond. They supported their responses with statements like the following:

> *"To me teacher's moral duty is to do all round development of child. So as a teacher I will show them a right path."*
>
> *"I would advise medium SRL to increase their independent learning because this would make them able to learn independently. This will enhance their capability to learn, built up confidence in them overall it will improve their result also."*
>
> *"I'll direct a student to improve their SRL because at every step of life teacher will not there with them. They've to learn all the things by their own."*
>
> *"I would direct my students to avoid going to coaching institutions and believe in their own skills and abilities. Some would need more efforts than others but independent learning i.e. studying with the help of technology or may be any other source which would make their learning interesting."*

5 Discussion

The TPSRL survey set out to explore which factors potentially influence teachers' assessments of their students' SRL competence, how they see the relationship between students' SRL competence and performance, as well as which type of students in terms of SRL level the teachers prefer to teach. The following sections summarise the themes emerging from the analysis of the TPSRL survey responses within the different cultural settings of the investigated communities of educators.

5.1 The overall SRL perceptions of teachers

In all the countries where the survey was circulated, the majority of the teachers that responded had an awareness of SRL and independent learning. Most of them also recognised the important function of SRL alongside its significance to them as well as to the students. Some respondents in the UK and in India related SRL to increased *maturity* and, therefore, an acceptance of *responsibility* for one's own learning. They also stated that SRL helps increase the students' ability to learn independently and build up confidence leading to better results. Greek respondents also related SRL with "*studiousness, a holistic way of thinking … level of experience in learning and life … more usual (for) older and more conscientious students*". Several teachers in Greece and China regarded SRL as a joint venture, i.e. learning together with students "*discovery together*". SRL was also seen by Chinese respondents to influence students' ability to learn faster: "s*timulates the students active thinking, improves interaction and (they) learn more quickly*". However, some Chinese and German respondents consider teaching a subject of higher priority than teaching SRL. Various teachers in India recognised that SRL could improve their students' reasoning or questioning abilities as well as their concentration power and, therefore, their capacity to learn. Some alluded to a teacher's moral duty to guide/show the 'right' path using SRL techniques, thus adding to the all round development of students, i.e. suggesting that this is an implicit responsibility for all the teachers.

The question remains though whether most teachers really develop a proper understanding of a strong form of SRL and its implications – in particular, that students develop their own interests and choose both their goals and their means to reach these goals according to their interests. Such a form of SRL does not exclude that the students' interests diverge from the contents of the teacher's course and, thus, result in a conflict with what the teacher is expected to teach. It is suspicious that the teachers strongly correlate high SRL levels with high learning performances (regarding the course contents) in general. If the teachers do appreciate SRL, do they really want their students to act autonomously, or do they just want them to do the 'right' thing – i.e. the thing wanted by the teacher – on their own, in anticipatory obedience? None of the participants has mentioned the potential of SRL as a means of resistance against an authoritarian pedagogic regime. Therefore, one can get the impression that teachers appreciate SRL within the limits of their course, correlating SRL with motivation and intelligence.

5.2 Ways of motivating and supporting students to become self-regulated

The strategies the respondents to the survey use in order to motivate and support students in becoming self-regulated are quite varied. A popular strategy in Germany and the UK consists of providing specific academic study skills facilities outside the classroom, available face to face or online from their institution. Additionally, several teachers direct students to online and/or library-based 'learning to learn' resources. Respondents from Greece and India said they introduce SRL to their students as a skill for life not just university, so that their students continue to learn in a practical and continuous way outside the classroom too. Some teachers in Germany prefer to offer less help to their students, thus encouraging them to take more initiatives and learn for themselves. 'Leading by example' is a popular strategy among Austrian respondents: the teacher

indicates or offers different approaches to resolving subject-based problems but leaves the students to choose their own learning path. Teachers in China seem to stick closer to the curriculum and the range of learning activities that the curriculum prescribes.

Finally, the majority of the respondents from all countries agreed that encouraging active learning through peer collaboration helps motivate SRL in their students. In particular, some teachers promote working together with their students, e.g. through semi-directed projects, or they encourage group work. It is noteworthy though that very few of the participants from all the surveyed communities of educators gave examples of motivating their students for planning or reflection, although these are considered essential SRL phases (Fruhmann et al., 2010).

5.3 Challenges in motivating SRL

The survey was also quite revealing with regard to some of the challenges in motivating students in formal education to become self-regulated learners. Several respondents from the UK stated that many students are simply not equipped to learn at an HE level: "*sometimes students are so out of their depth that they have no time to do anything else but study the course material*". Greek respondents also mentioned that their students are reluctant to accept new methods of learning or change their outlook on learning. On the other hand, most students expect to be provided with precisely defined learning materials and strategies by their teachers, so that they can pass the tests and acquire the desired qualifications.

One of the themes that emerged from all the surveyed countries was that inspiring groups of students that have mixed learning skills is challenging in itself. Students with fewer SRL skills require more time to assimilate information or discover new methods of learning. This has implications for the teacher in terms of the effort required to meet the needs of the entire spectrum of learning skills in the classroom. Even more important is the fact that the teacher may not have enough training, experience or personal confidence to motivate SRL. Additionally, educators from all countries reported that the curriculum is often quite restrictive in terms of what will be taught within a course and how.

6 Conclusions

The premise of this paper was to investigate SRL in formal education whilst examining the perceptions of educators, classify any challenges they reported and identify opportunities for promoting SRL within different cultural settings. For this purpose, a survey was developed as an instrument of collecting quantitative and qualitative data from educators in a number of countries inside and outside Europe. The analysis of these data has helped us acquire a better insight into the perceptions of educators about SRL, their strategies for motivating SRL among their students as well as the challenges they face in motivating SRL.

Overall, the received responses mostly reflect established cultures both in respect of national traits and in relation to a learning and teaching culture. In most cases, educators recognise the value of SRL both in the short term (helping their students with their current studies) and in the long-term (helping their students with lifelong learning objectives). However, in several cases teachers have no support from their respective institutions, for example in the form of bespoke learning resources and facilities. This

signifies an opportunity for the development of bespoke TEL solutions and learning materials targeted to explaining and motivating SRL to teachers and students in formal education.

An even greater challenge lies in the fact that most national curricula do not recognise the need to foster SRL and are not flexible enough to allow the teacher to incorporate SRL in their teaching. It is therefore important that SRL becomes one of the priorities within curricula at a national and European level, so that formal education leads to self-regulated students that have the skills to continue to learn and acquire new qualifications throughout their lifetime.

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